

DISCOVER-AQ OUTLOOK -- September 28, 2013

DISCOVER-AQ did not fly today ahead of tomorrow's planned P-3B transit flight. The B200 left for home this morning. Clouds quickly became broken to overcast by mid-morning with several heavy thundershowers scattered across the region. Deep moist flow off the Gulf and thick clouds will preclude any build up of pollution today or tomorrow.

The P-3B will fly across the SE United States tomorrow morning with takeoff at 10am. The goal is to sample fresh fire plumes in the Southern Georgia region, an area being watched for recent hotspot activity. Conditions ahead of the cold front affecting the Houston and MS Valley area will be quite clear, so the flight should be unaffected by cloud cover or shower activity throughout Mississippi, Alabama and Southern Georgia.

9/28/2013 Weather Briefing

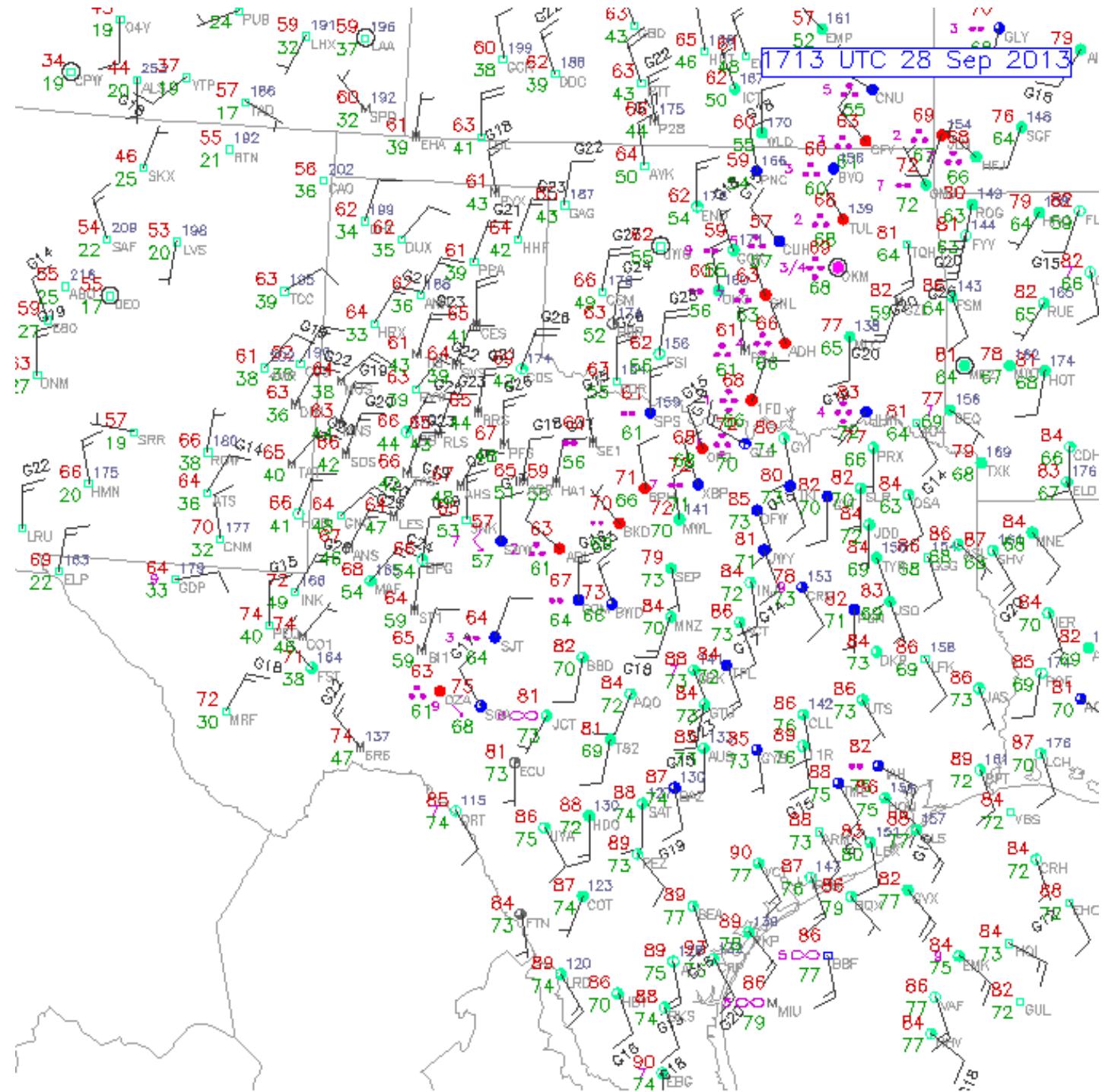
Ryan Stauffer

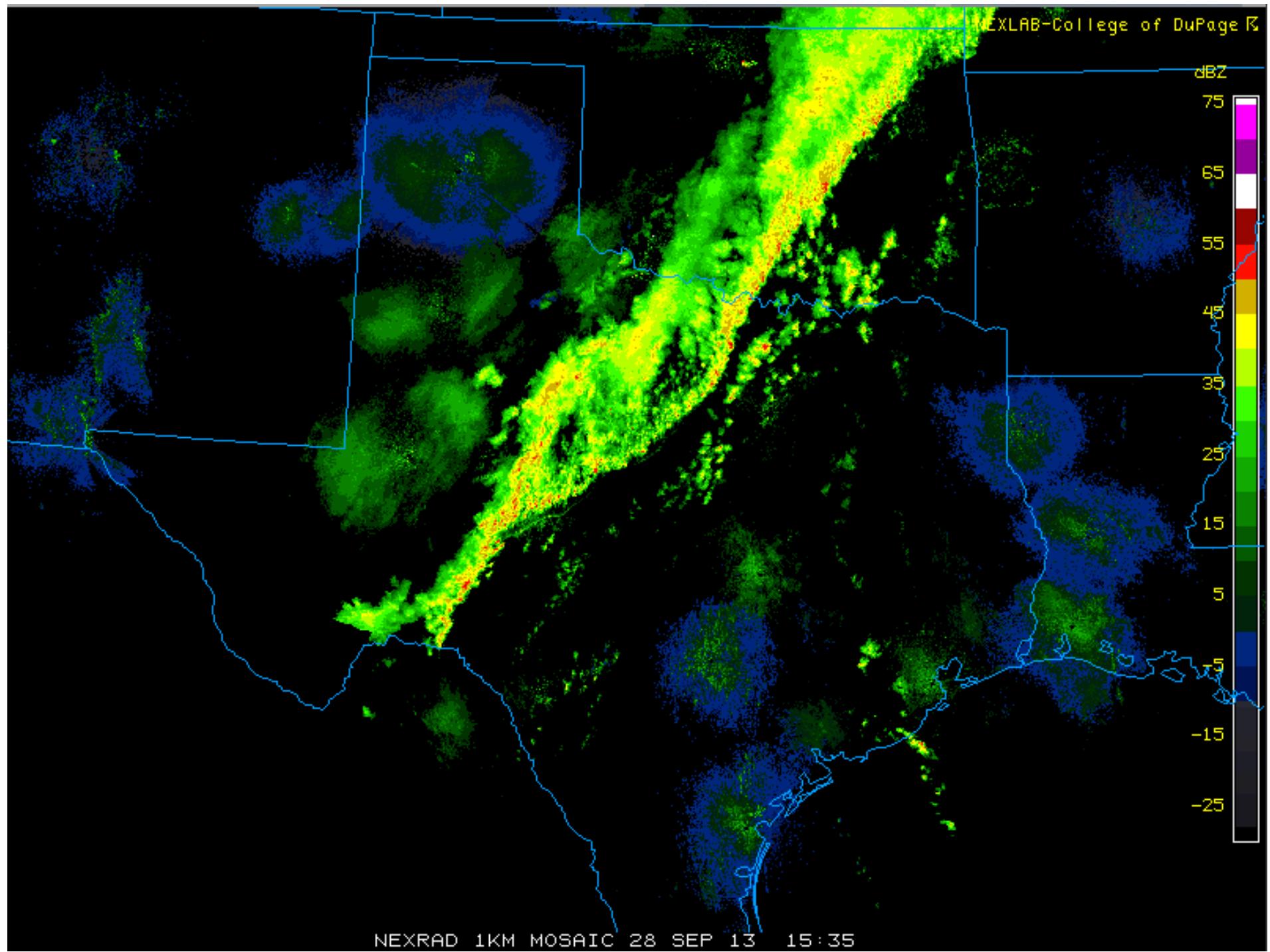
Quick Climate Note:

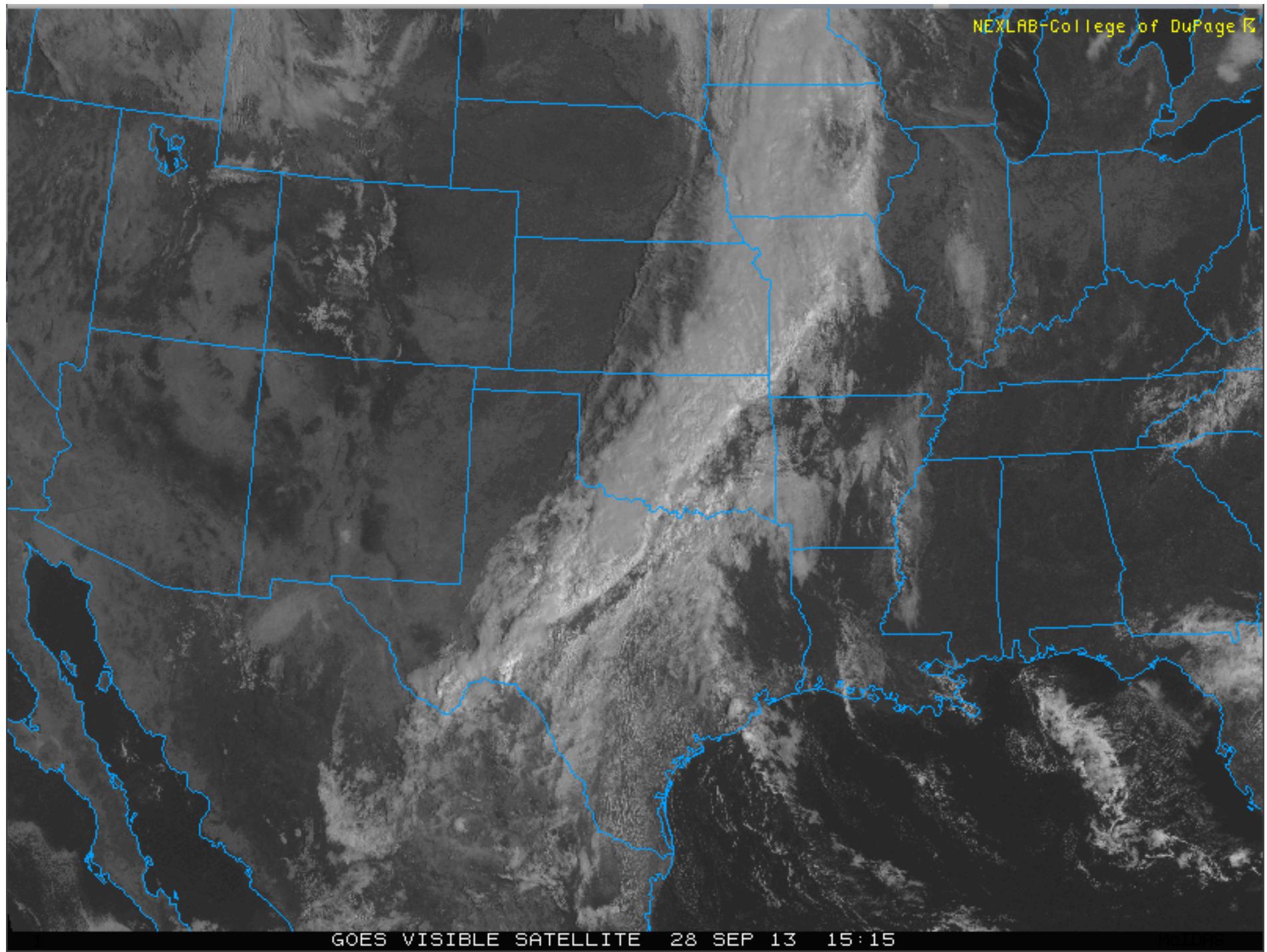
- Average September temperature at KHOU currently ranks as second (2005) warmest of all time (records to 1931)
- Region still only managed 2 high ozone pollution days with ample flow off the Gulf and that pesky Gulf Low lingering for several days

Summary

- Other than an increased chance for showers and T-storms, cloud cover here today similar to yesterday
- Prospects for quality MS Valley science dim a little more on Sunday
 - Up to 1" of rain in the MS Valley
 - Heaviest rain ~12-18 UTC, less S toward MS on Sunday
 - Shift flight SEward? South side stalls and opens a window Sunday ahead of front through MS-AL-GA



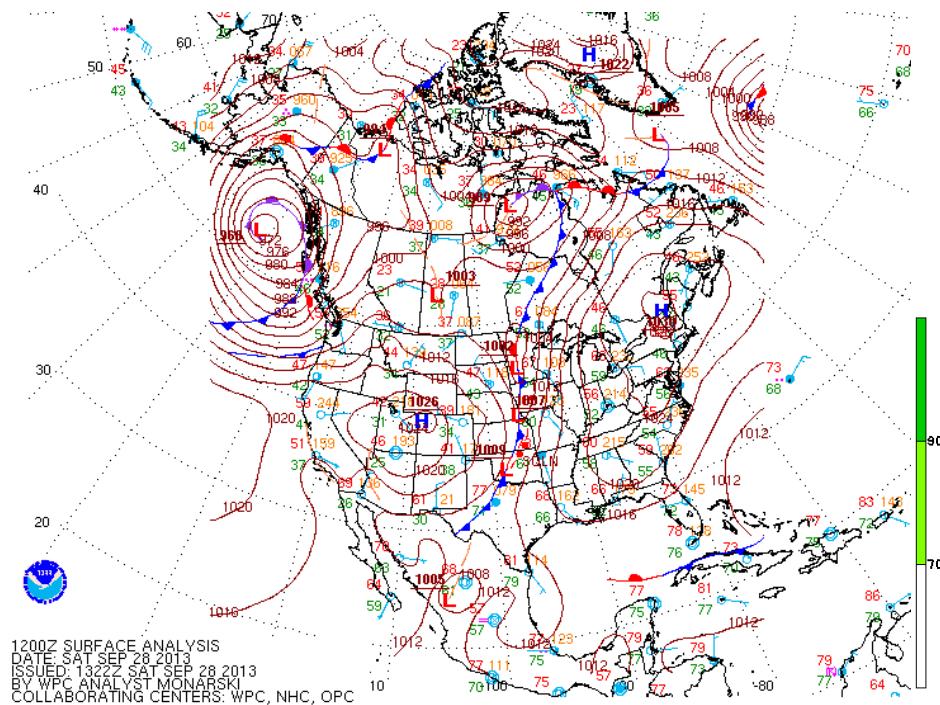




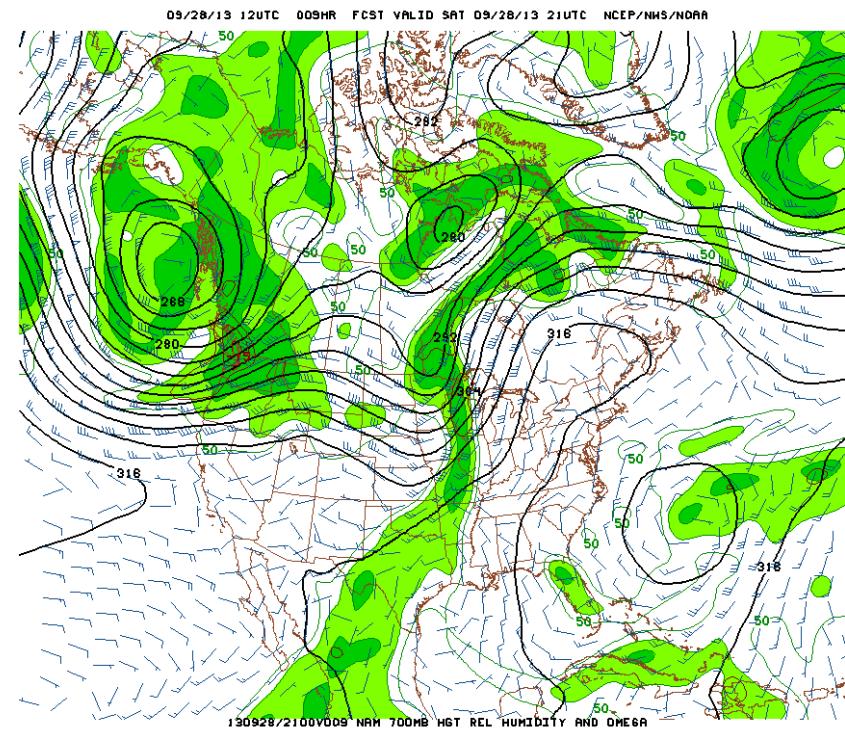
GOES VISIBLE SATELLITE 28 SEP 13 15:15

Today: Front draped through C. TX, will slow near our area as temperature gradient runs out of steam. Plenty of clouds and showers in Houston, MS Valley sees first effects of cold front. Clear in GA

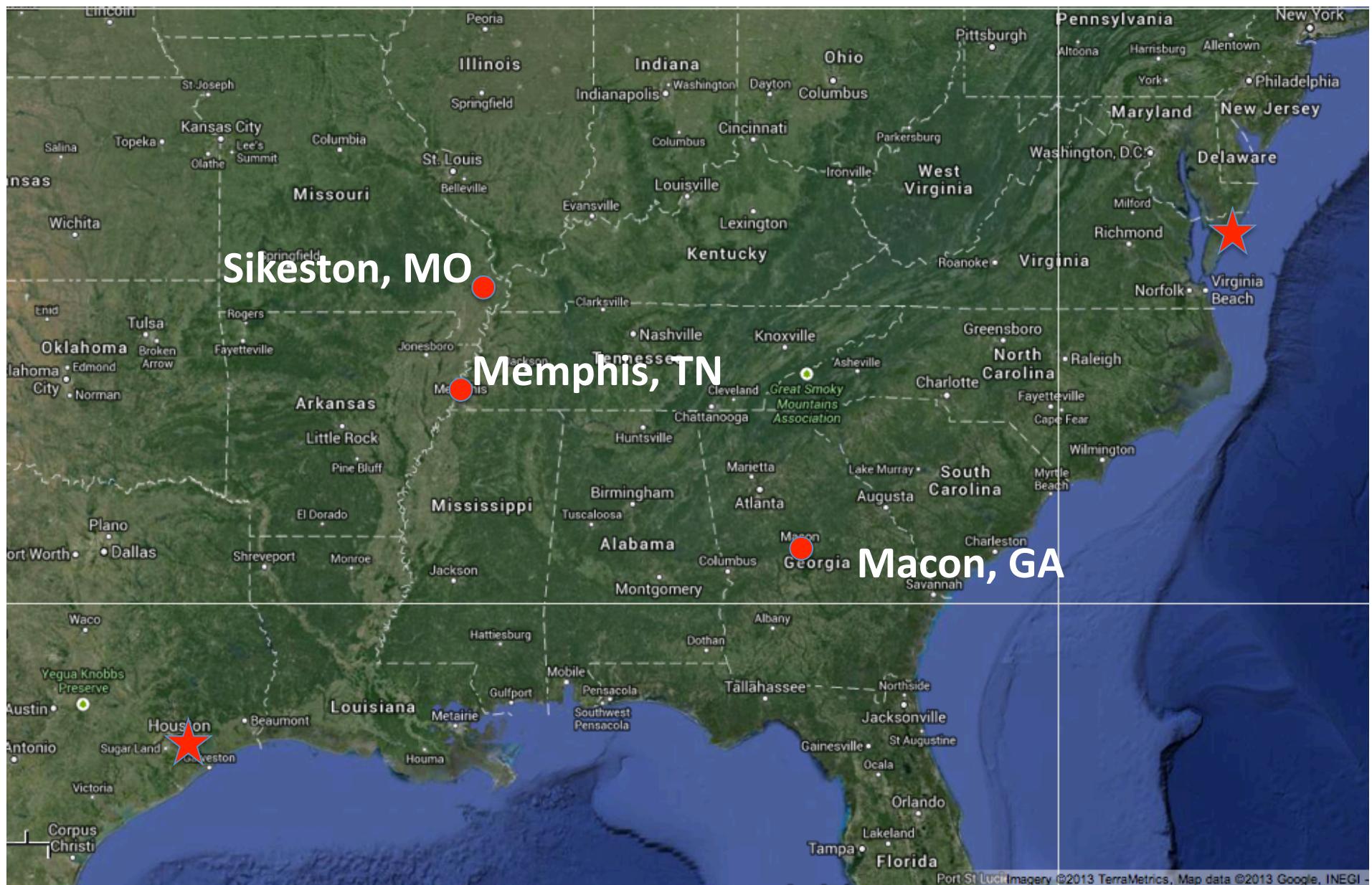
12z Surface Analysis



4 PM CDT NAM
700 mb RH



MS Valley and GA Forecast



Sikeston:

TODAY	TONIGHT	SUNDAY	SUNDAY NIGHT	MONDAY	MONDAY NIGHT	TUESDAY	TUESDAY NIGHT	WEDNESDAY
	 60%		 80%					
Mostly Sunny High: 84 °F	Thunderstorms Likely Low: 61 °F	Thunderstorms High: 74 °F	Mostly Cloudy Low: 58 °F	Mostly Cloudy High: 78 °F	Partly Cloudy Low: 60 °F	Mostly Sunny High: 81 °F	Partly Cloudy Low: 62 °F	Mostly Sunny High: 82 °F

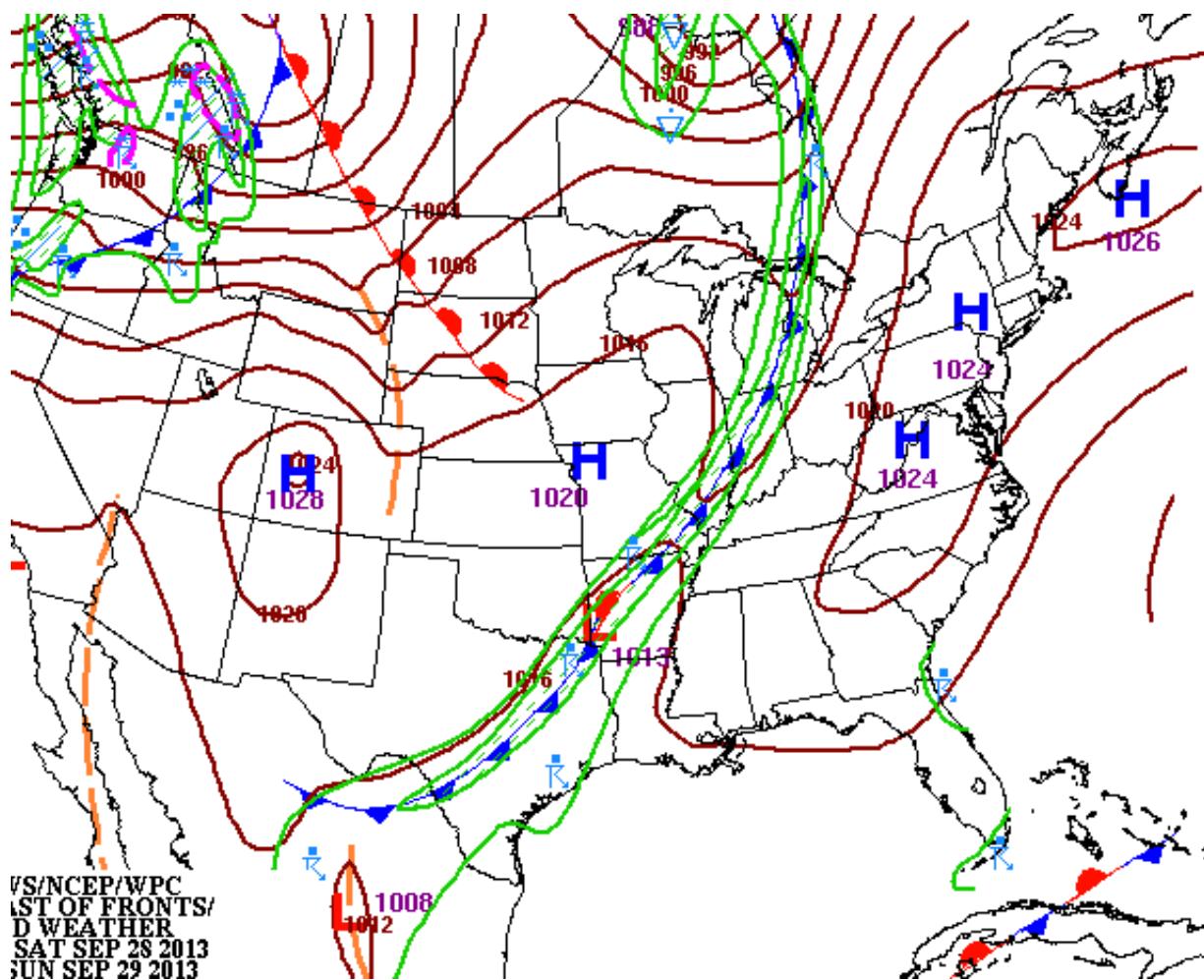
Memphis:

TODAY	TONIGHT	SUNDAY	SUNDAY NIGHT	MONDAY	MONDAY NIGHT	TUESDAY	TUESDAY NIGHT	WEDNESDAY
	 20%		 70%	 30%	 20%			
Sunny High: 87 °F	Slight Chc Thunderstorms Low: 67 °F	Thunderstorms Likely High: 79 °F	Chance Thunderstorms Low: 66 °F	Slight Chc Thunderstorms High: 81 °F	Mostly Cloudy Low: 66 °F	Partly Sunny High: 85 °F	Partly Cloudy Low: 67 °F	Partly Sunny High: 86 °F

Macon:

THIS AFTERNOON	TONIGHT	SUNDAY	SUNDAY NIGHT	MONDAY	MONDAY NIGHT	TUESDAY	TUESDAY NIGHT	WEDNESDAY
				 20%	 10%	 20%	 20%	 20%
Sunny High: 80 °F	Mostly Clear Low: 55 °F	Patchy Fog High: 80 °F	Partly Cloudy Low: 60 °F	Slight Chc Showers High: 82 °F	Slight Chc Showers Low: 59 °F	Slight Chc Showers High: 84 °F	Slight Chc Showers Low: 62 °F	Slight Chc Showers High: 86 °F

Tomorrow: Might be a rough flight through TX and LA with heavy showers and imbedded T-storms throughout. Wave of low pressure develops along stalled portion of frontal boundary, providing a clearer flight path through MS-AL-GA



12z surface forecast

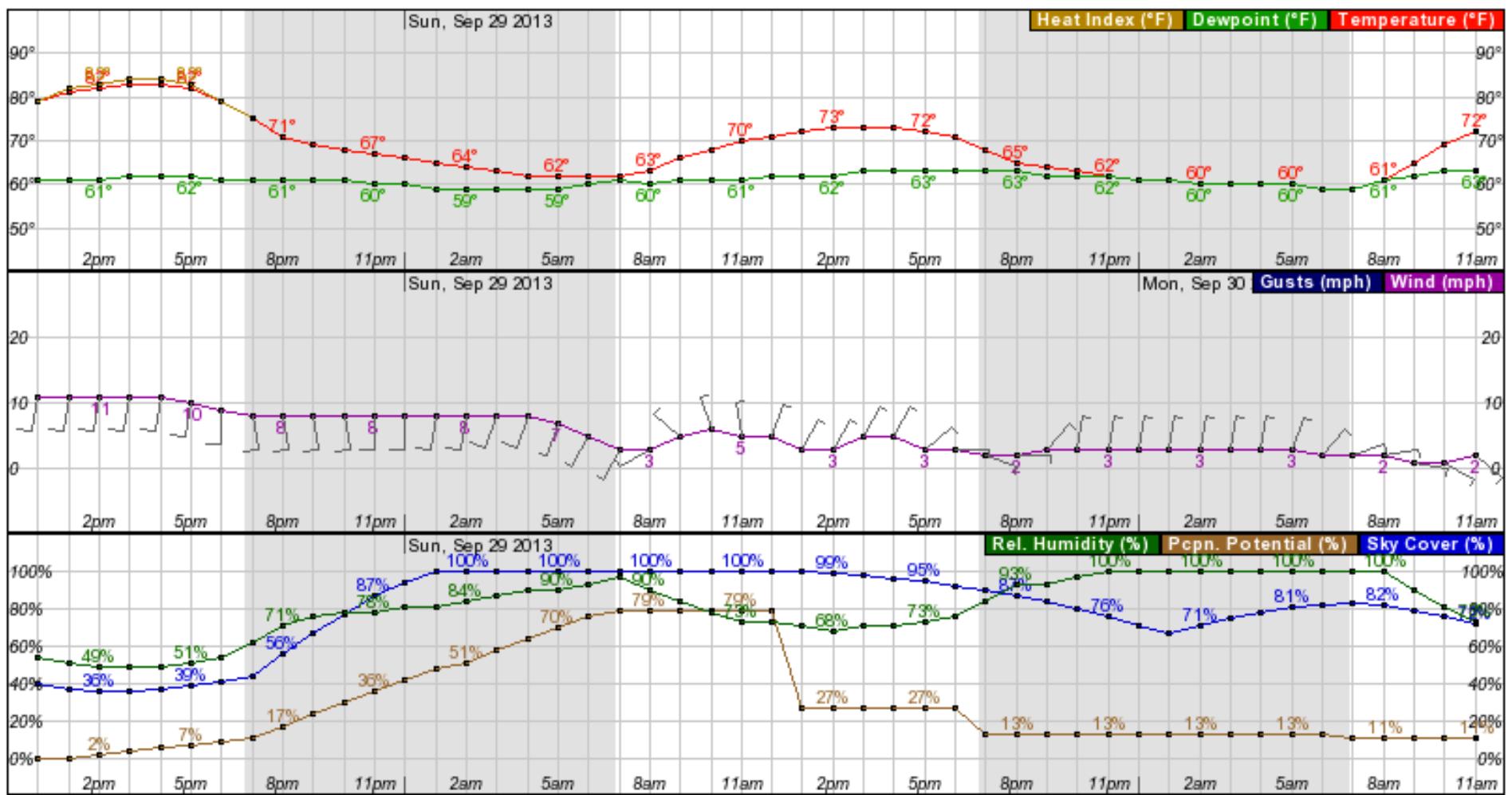
Sikeston

Today: Increasing clouds in the afternoon

Tomorrow: OVC, high chance of rain and T-storms

Today→

Tomorrow→



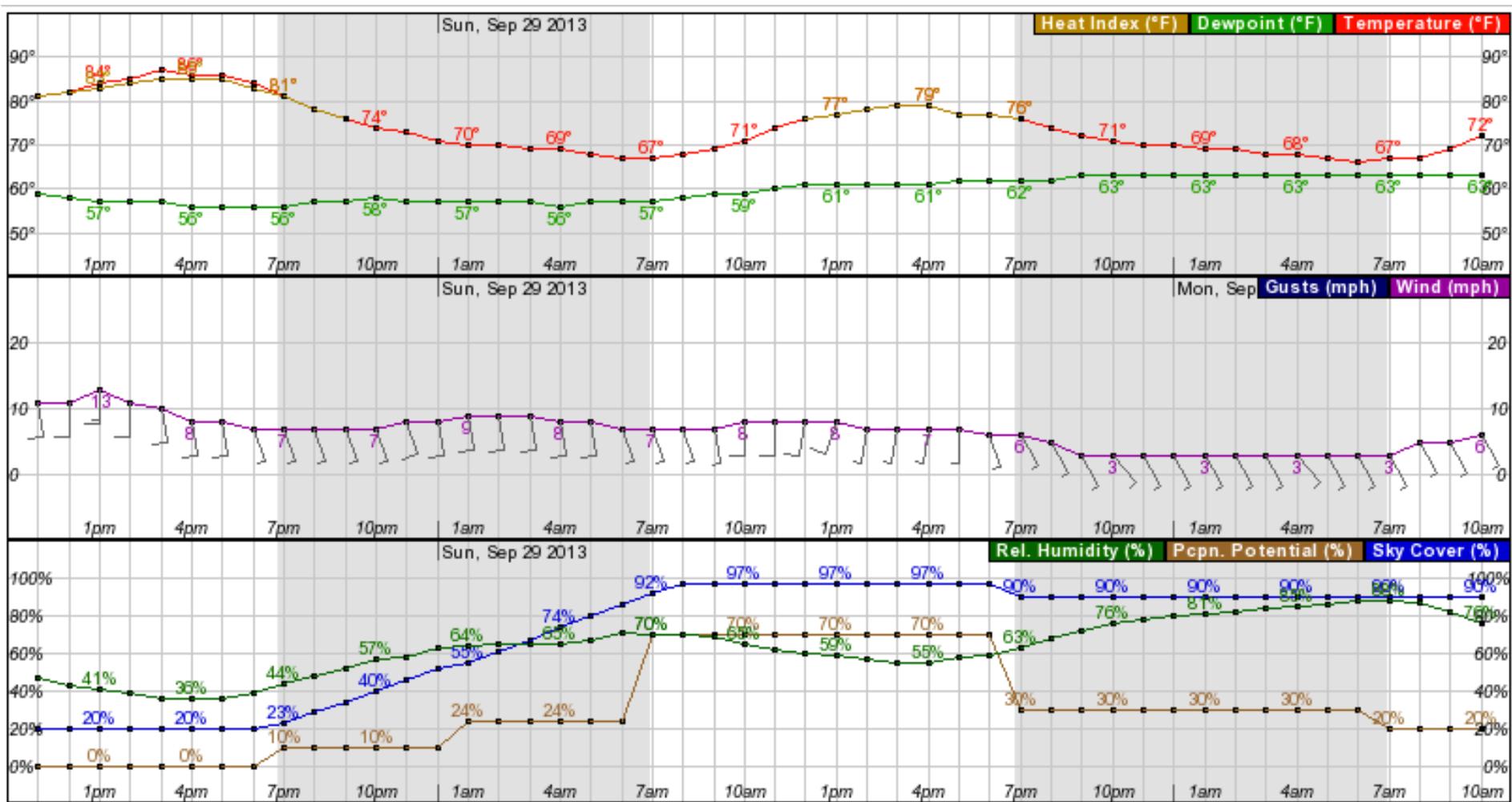
Memphis

Today: Mostly sunny, clouds increase overnight

Tomorrow: OVC and rain, some T-storms

Today→

Tomorrow→



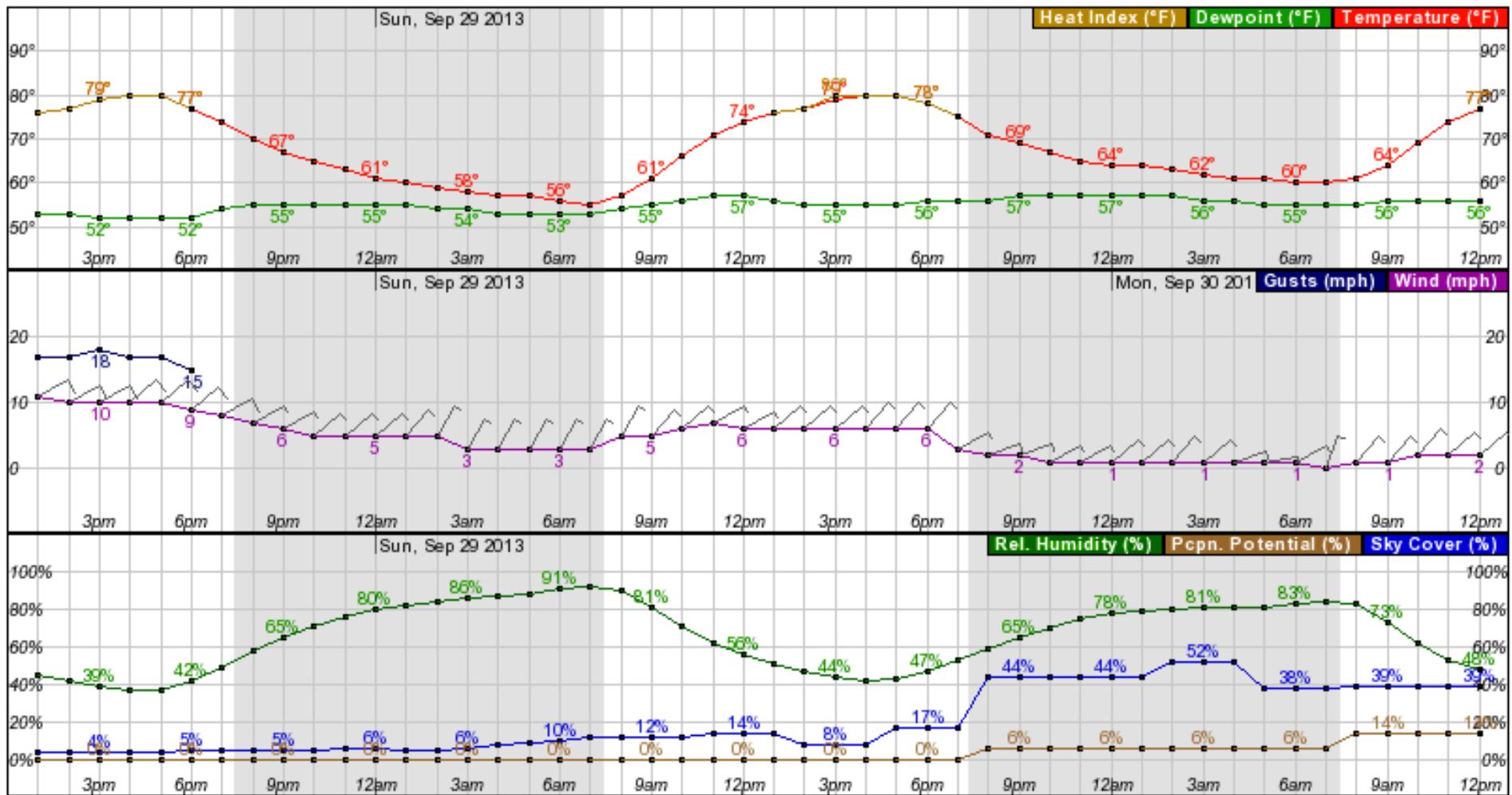
Macon

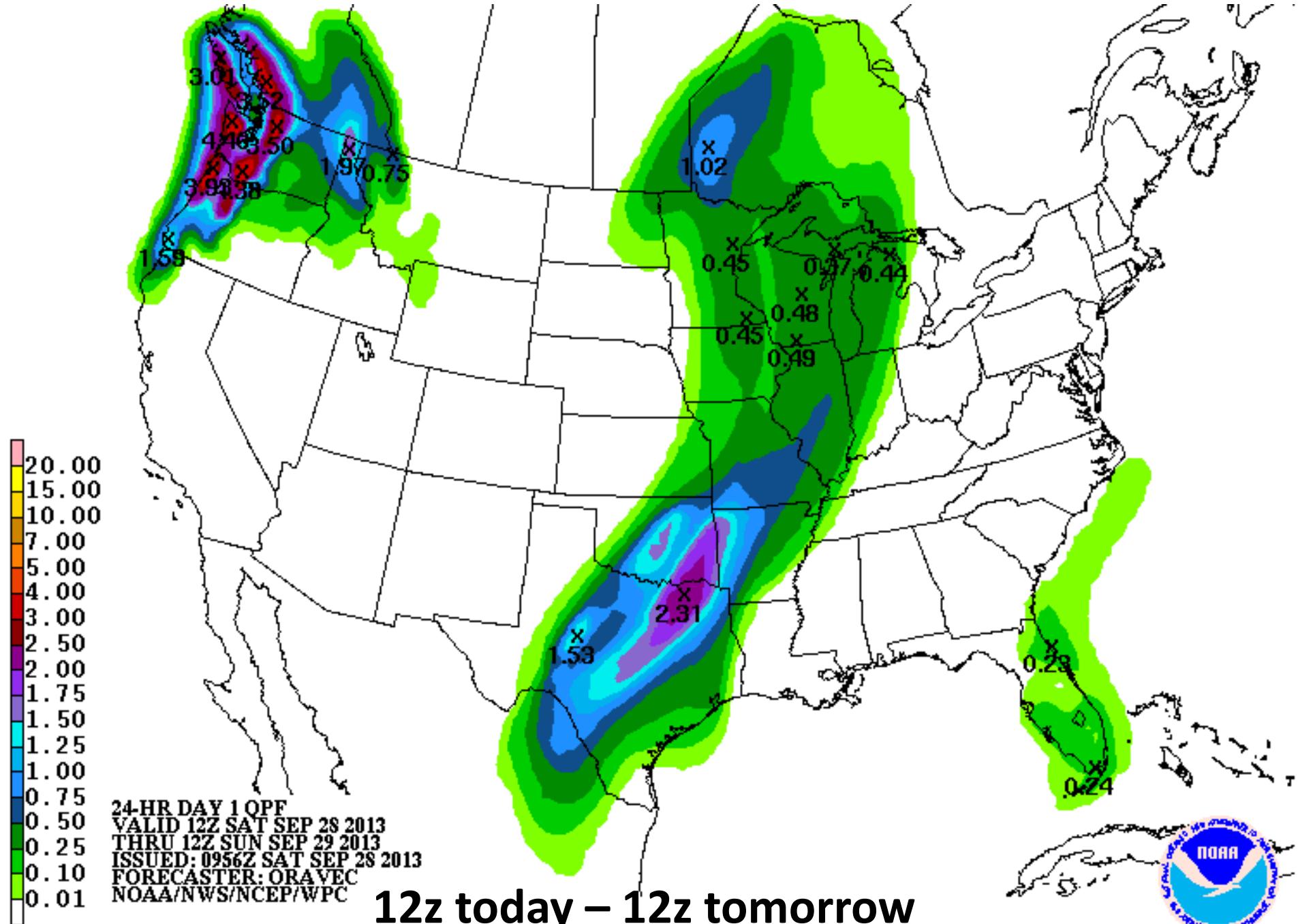
Today: Sunny, clear and dry

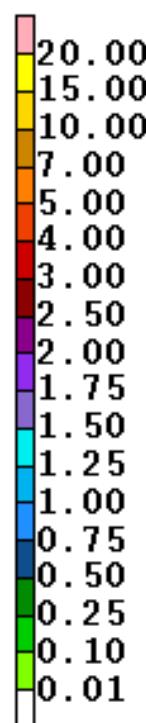
Tomorrow: I think a few more clouds than depicted here

Today→

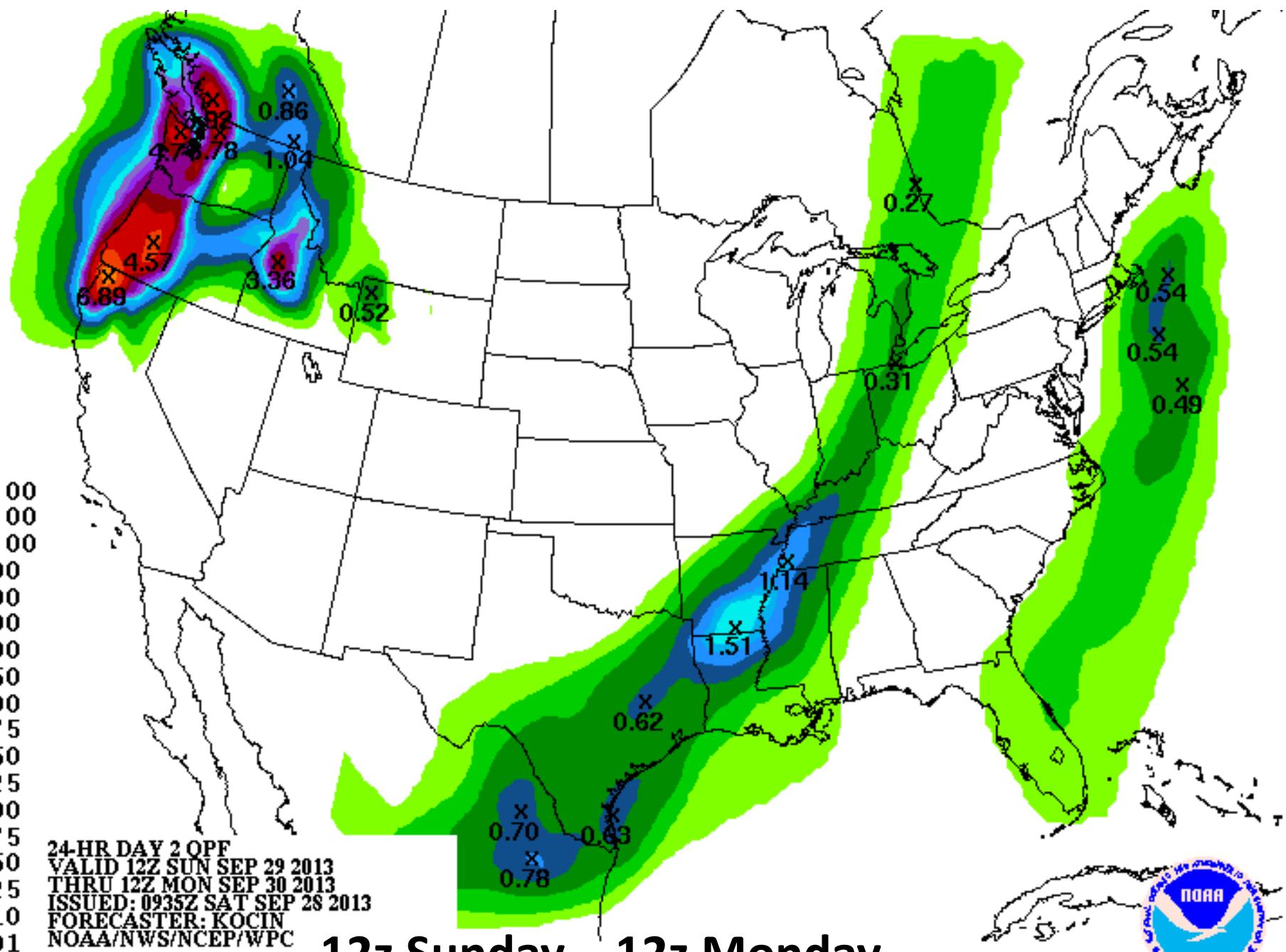
Tomorrow→







24-HR DAY 2 QPF
VALID 12Z SUN SEP 29 2013
THRU 12Z MON SEP 30 2013
ISSUED: 0935Z SAT SEP 28 2013
FORECASTER: KOCIN
NOAA/NWS/NCEP/WPC

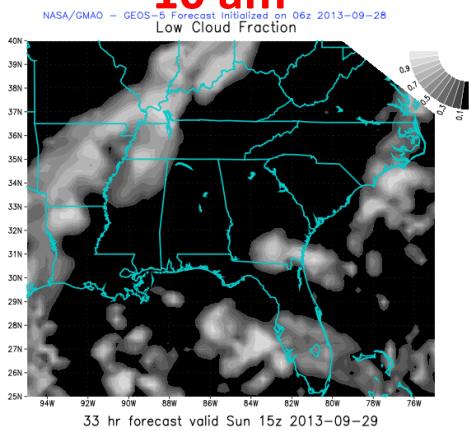


12z Sunday – 12z Monday

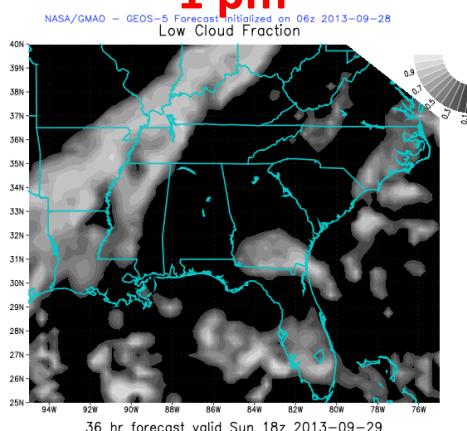


Tomorrow (Sunday): GEOS-5 – low clouds S, cirrus from convection to contend with?

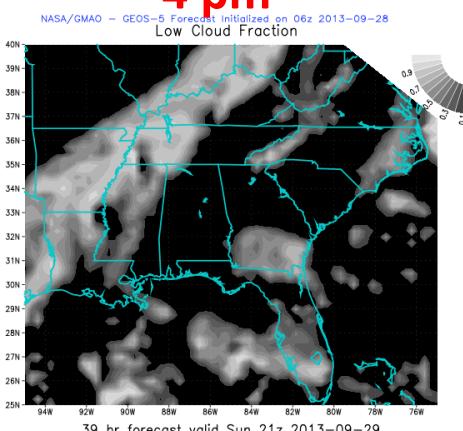
10 am



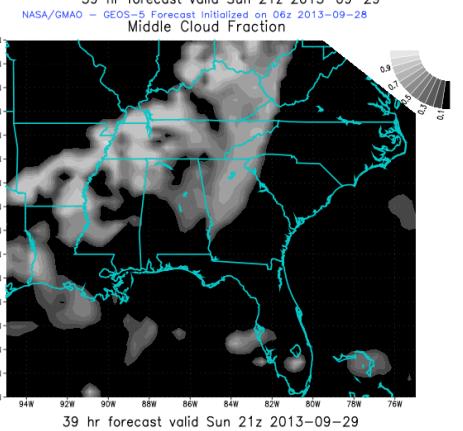
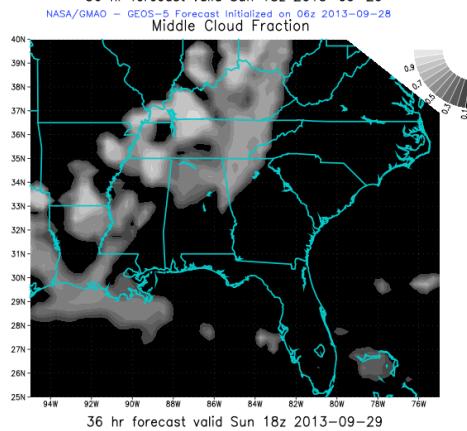
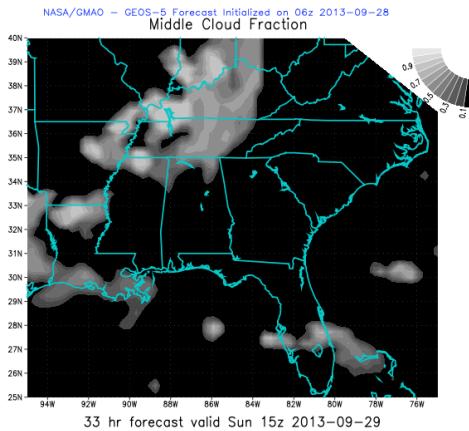
1 pm



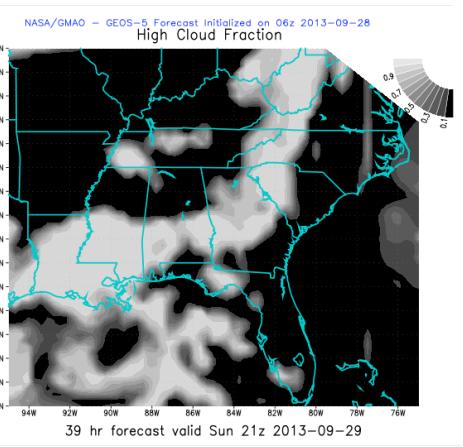
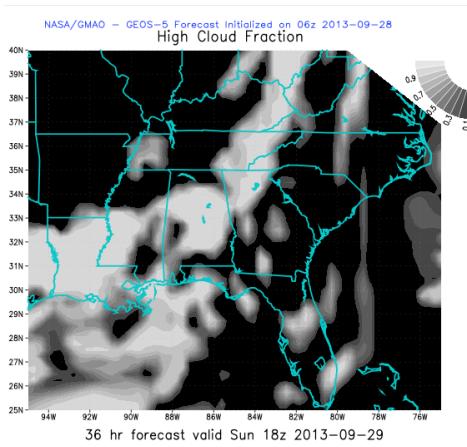
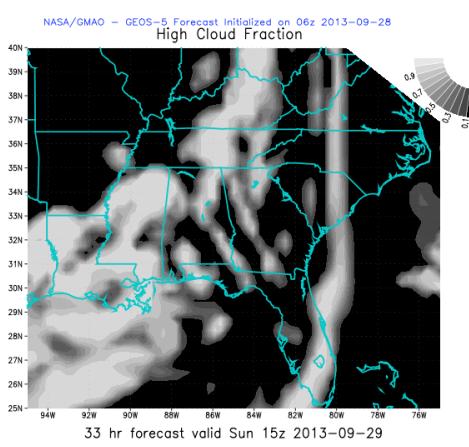
4 pm



Low



Mid



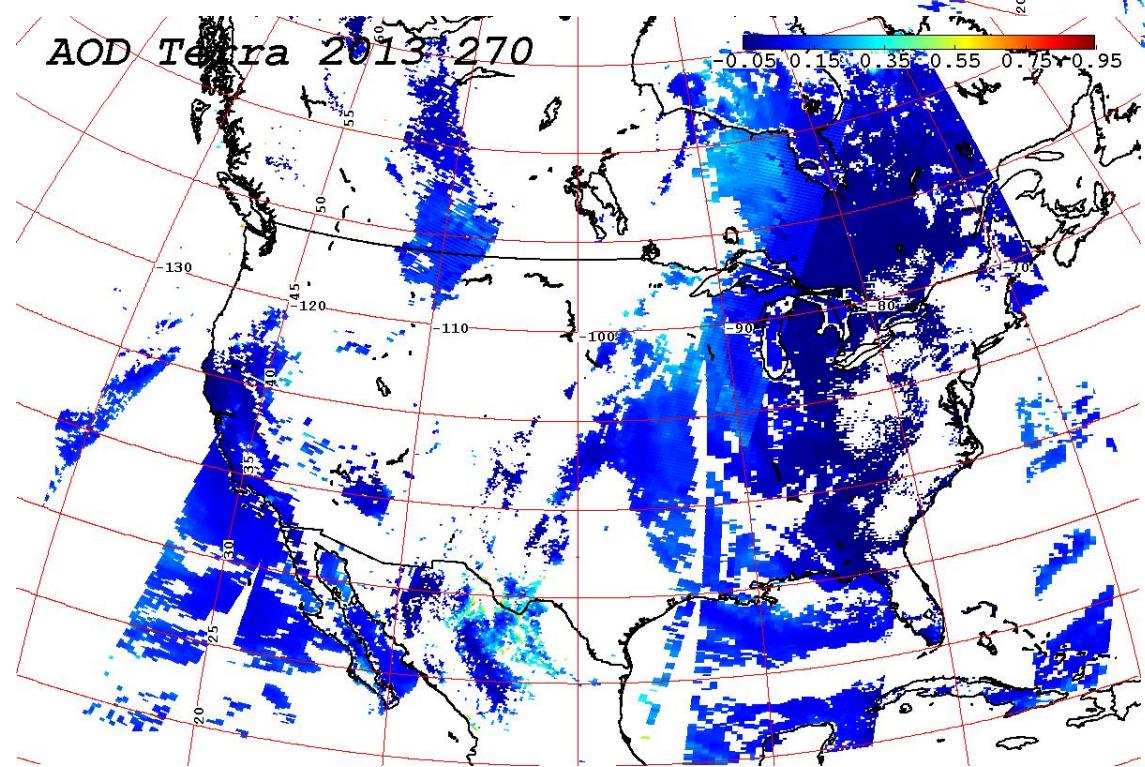
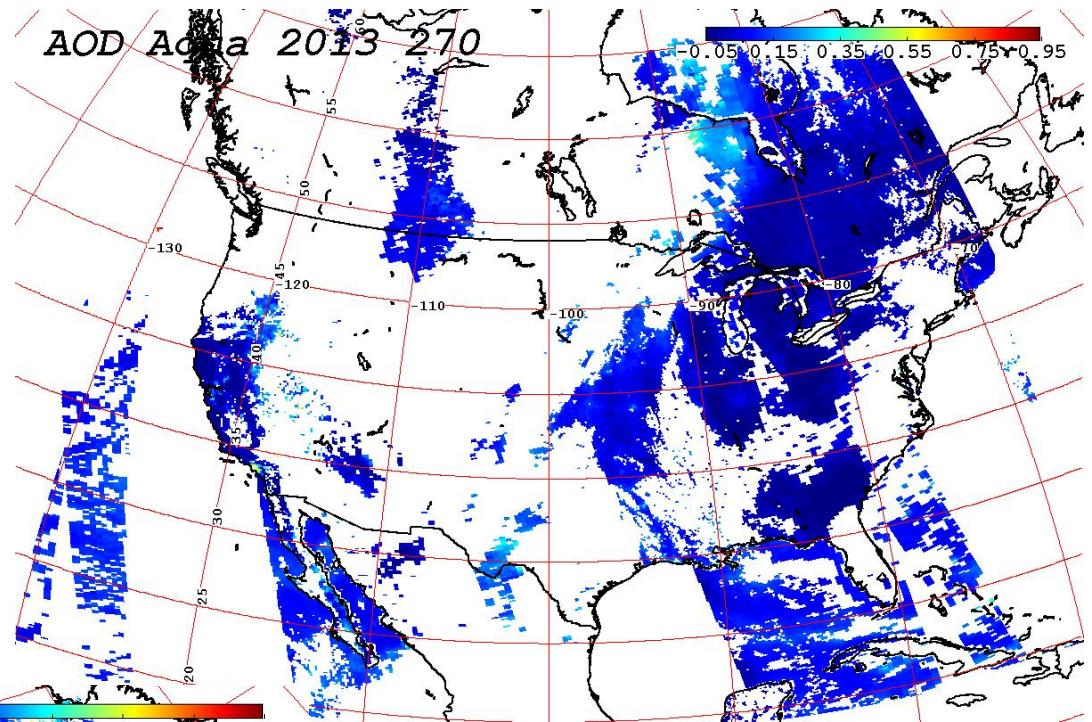
High

AQ Outlook

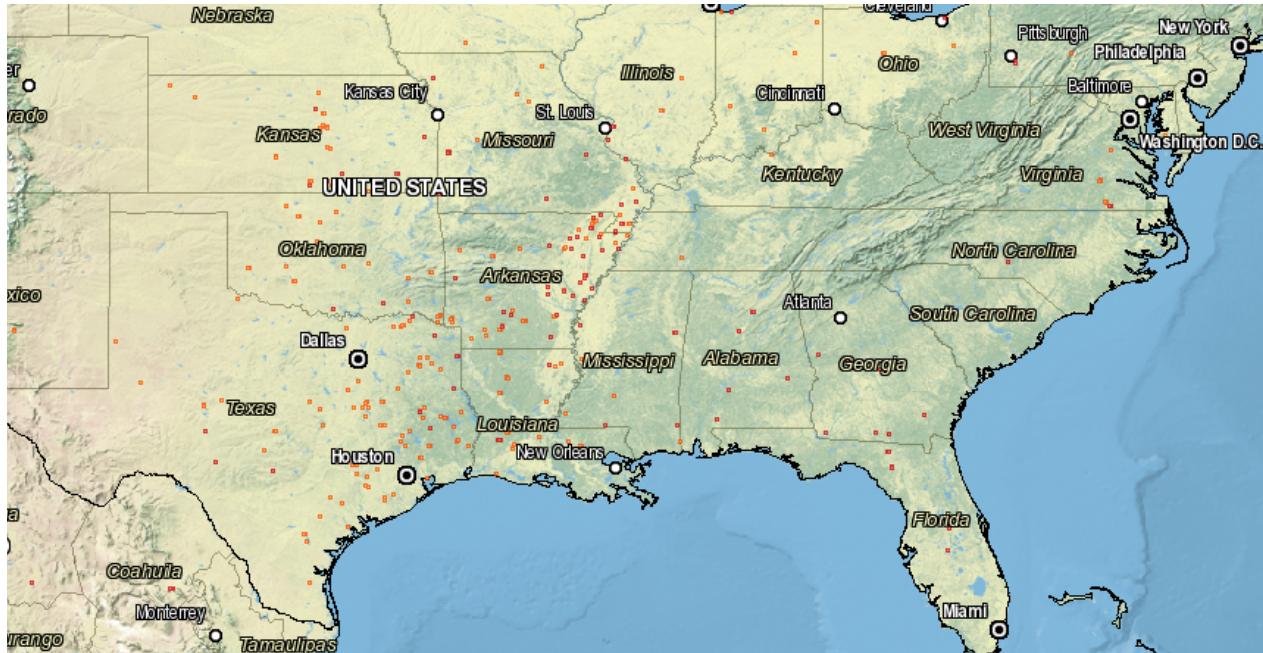
09/28/2014

Bryan Duncan

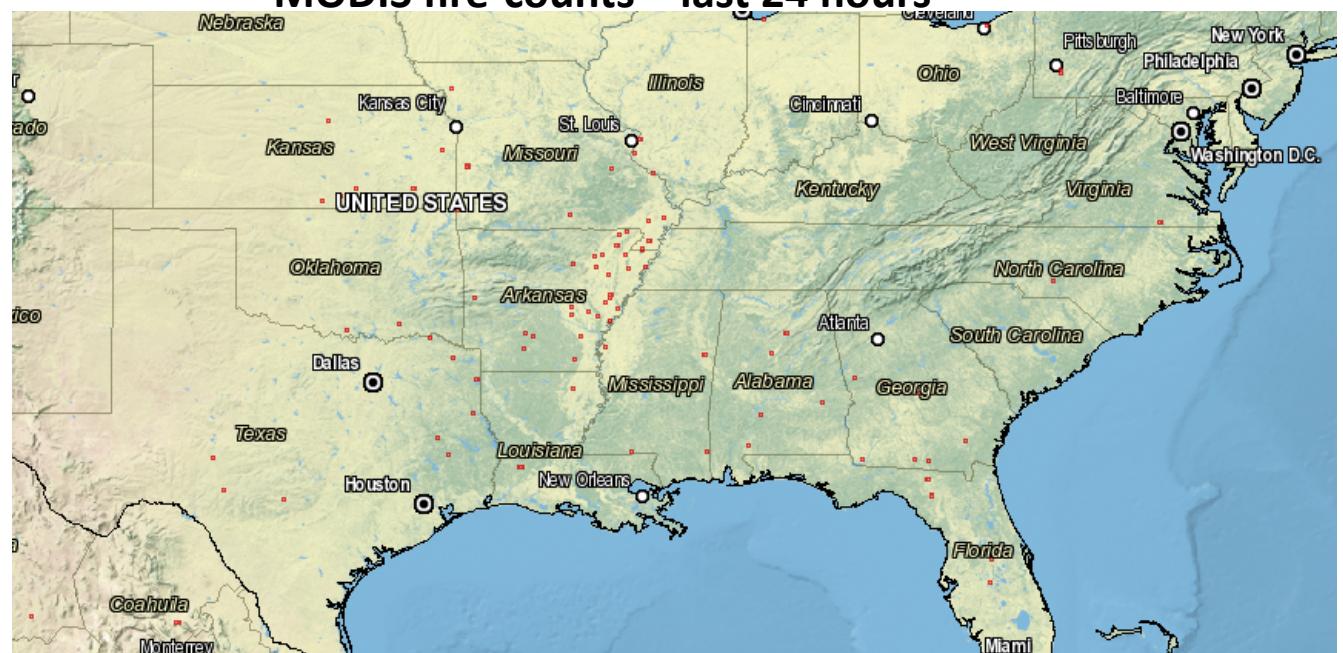
No obvious areas of high AOD yesterday.

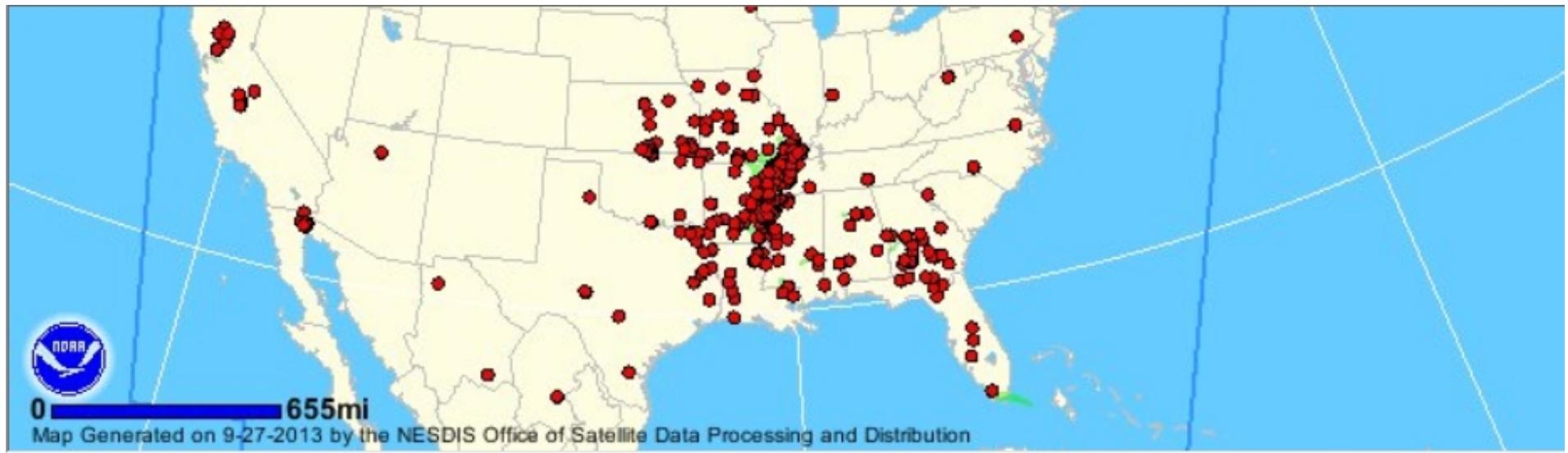


MODIS fire-counts – last 72 hours



MODIS fire-counts – last 24 hours





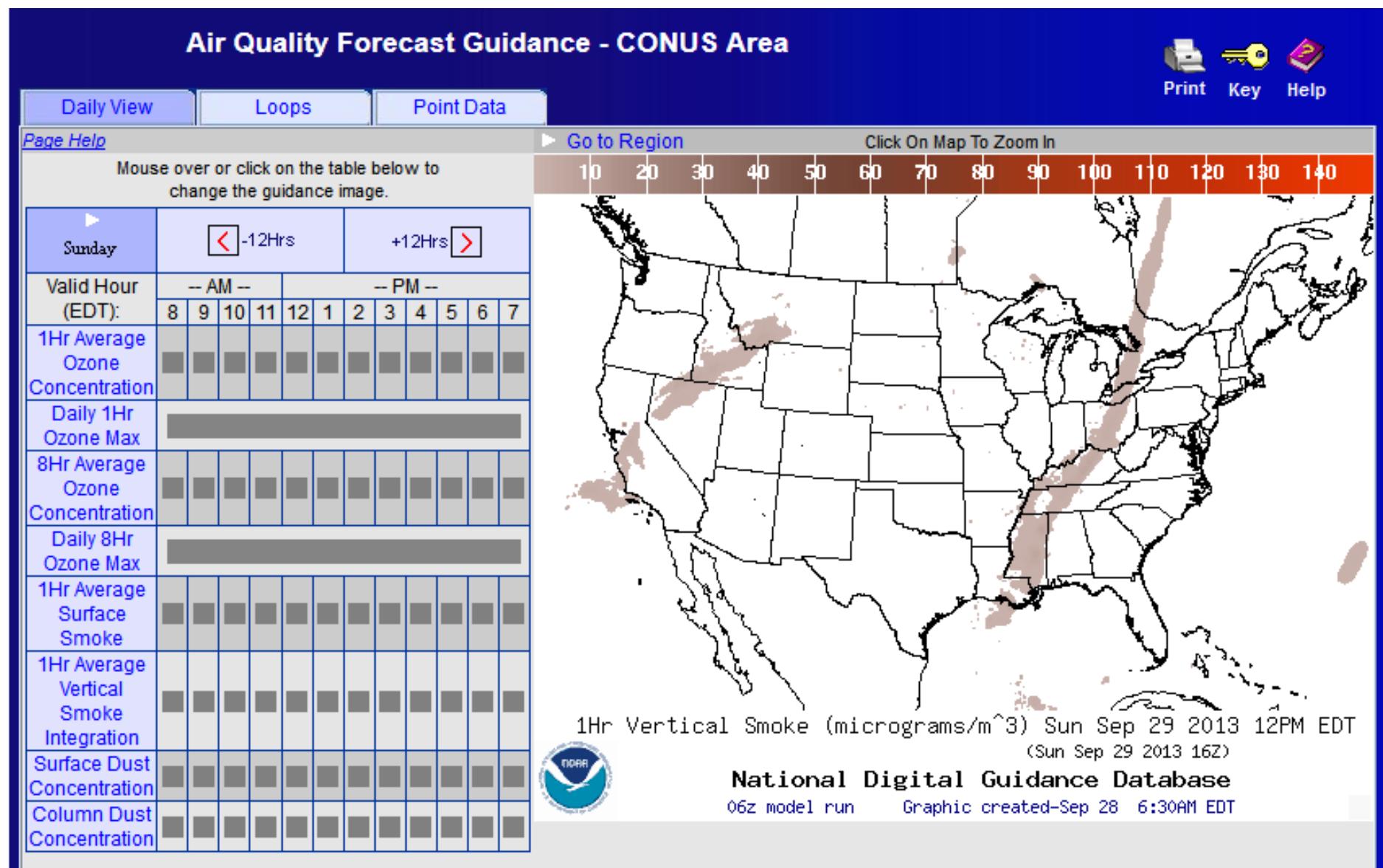
Analyzed Fires and Smoke from Satellite on this ArcIMS server were updated on **Sat Sep 28 01:22:39 2013 GMT**



Yesterday evening,
several fires in C. and S.
GA

This morning, not too
much action, but area
will be quite dry the
next two days, dew
points in the low to
mid-50Fs

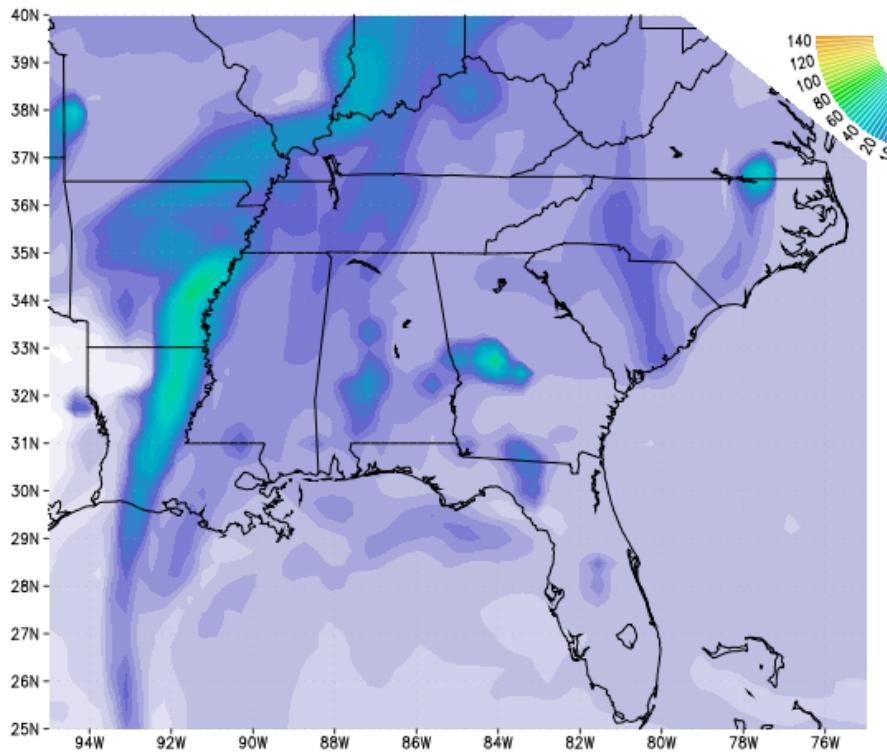
Vertical Smoke (ug/m³) for Noon Sunday



GEOS-5: 1pm Sunday

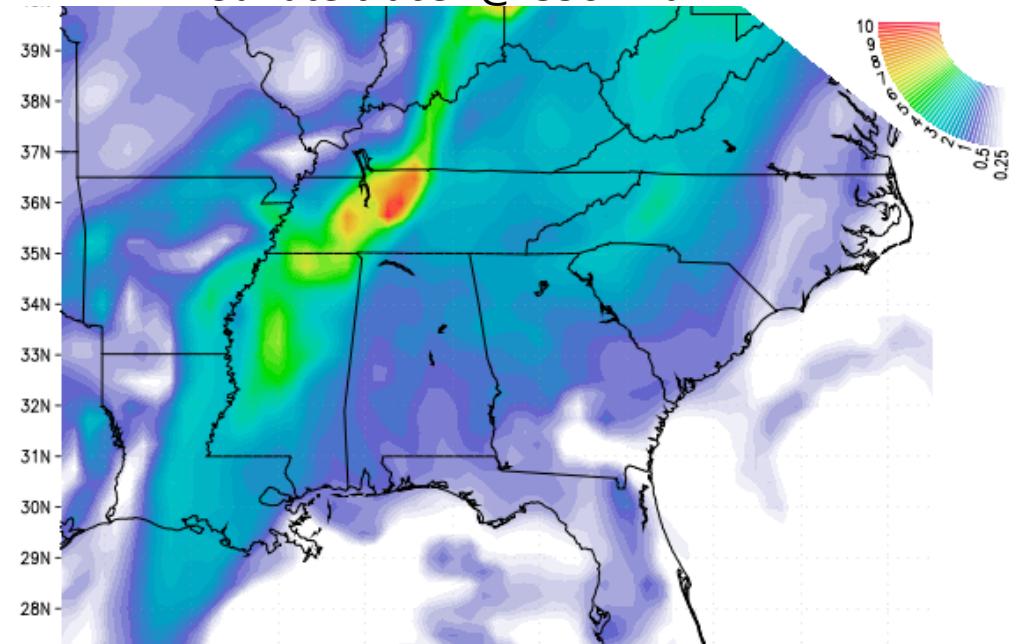
Plane likely to encounter both biomass burning pollution and anthropogenic pollution.

Biomass Burning CO tracer @ 850 hPa

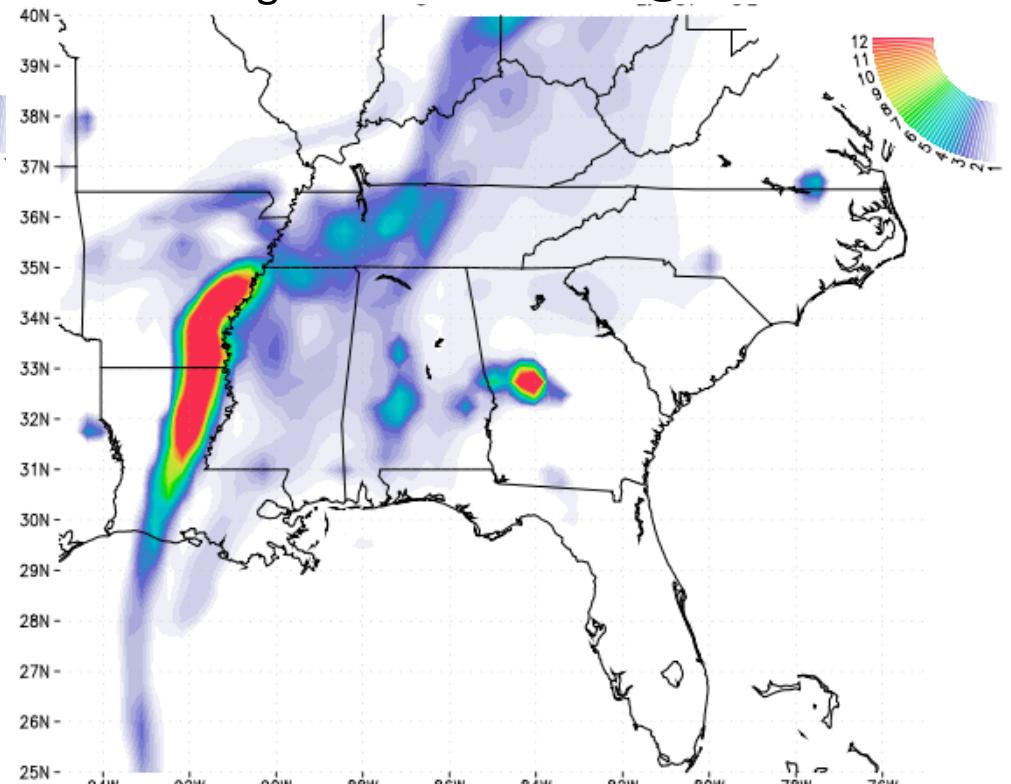


Valid: Sun 18z 2013-09-29 ($\tau = 42$)

Sulfate tracer @ 850 hPa



Organic Carbon tracer @ 850 hPa





Summary

- Up to 1"+ of rain in the MS Valley
- Heaviest rain ~12-18 UTC, less S through MS on Sunday
- Potential for a run across LA-MS-GA?
 - Finding individual fires seems more likely through GA, and on the larger scale some smoke may still be around MS area
- Looks like a great fall week ahead for the East Coast!